

Amendments to the Claims:

This listing of claims shall replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Previously Presented) A method of monitoring electronic tag operation comprising the steps of
 - passing an item through a read volume;
 - identifying the item by reading a label on the item and obtaining identification data;
 - determining whether the item includes an EAS tag by attempting to sense an EAS tag;
 - if an EAS tag has been sensed, (a) attempting to deactivate the EAS tag and (b) validating whether the EAS tag has been deactivated by attempting to re-sense the EAS tag after attempting to deactivate;
 - if the EAS tag has been re-sensed, repeating steps (a) and (b) for up to a given period or a given number of cycles;
 - assembling data of EAS system operation pertaining to sensing and attempting to deactivate the EAS tag including the number of deactivation attempts;
 - correlating the EAS system operation data including the number of deactivation attempts to the item identified.
2. (Previously Presented) A method according to Claim 1 wherein the step of correlating comprises:
 - appending the assembled EAS system operation data to the identification data to generate a combined data string; and
 - transmitting the data as a combined data string to a host.
3. (Canceled)

4. (Previously Presented) A method according to Claim 1 wherein the step of correlating further comprises:

transmitting the identification data to a host and separately transmitting the EAS system operation data to the host; and

automatically matching the EAS system operation data to the identification data if the EAS system operation data is received by the host within a predetermined time period of receiving the identification data.

5. (Previously Presented) A method according to Claim 1 wherein the step of assembling data comprises measuring a time it takes to sense the EAS tag after reading the label.

6. (Canceled)

7. (Canceled)

8. (Previously Presented) A method according to Claim 1 wherein the step of assembling data comprises identifying a defective EAS tag.

9. (Previously Presented) A method according to Claim 8 further comprising tallying number of defective EAS tags by type of item identified.

10. (Previously Presented) A method according to Claim 1 wherein the step of assembling data comprises determining EAS tag quality.

11. (Previously Presented) A method of operating a data reading and electronic article security (EAS) system, comprising the steps of:

(a) obtaining item identification data by reading a label on an item being passed through a read volume of a data reader;

(b) attempting to sense an EAS tag on the item;

- (c) if an EAS tag has been sensed, attempting to deactivate the EAS tag;
- (d) collecting EAS system operation data including the number of deactivation attempts with respect to the results of steps (b) and (c); and
- (e) correlating the collected operation data including the number of deactivation attempts collected to the item identified.

12. (Canceled)

13. (Previously Presented) A method according to Claim 11 wherein the step of correlating comprises:

- appending the collected EAS system operation data to the item identification data to form combined data; and
- transmitting the combined data to a host.

14. (Previously Presented) A method according to Claim 13 further comprising

- (f) storing the combined data in the data reader.

15. (Previously Presented) A method according to Claim 13 further comprising repeating steps (a) through (e) for subsequent items and storing the combined data for each of the items in the data reader;

- transmitting the combined data for items to the host for further processing.

16. (Previously Presented) A method according to Claim 11 wherein the step of correlating comprises:

- transmitting the item identification data to a host and separately transmitting the EAS system operation data to the host; and
- automatically matching the EAS system operation data to the item identification data if the EAS system operation data is received by the host within a predetermined time period of receiving the item identification data.

17. (Canceled).

18. (Previously Presented) A method according to Claim 11 wherein the step of collecting data comprises measuring a time it takes to sense the EAS tag after reading the label.

19.-21. (Canceled)

22. (Previously Presented) A system for monitoring electronic article surveillance (EAS) tag quality comprising:

a combined data reader and EAS system for reading labels appended to an item and for sensing and deactivating EAS tags appended to the item;

means within the combined system for identifying a defective EAS tag;

means for indicating presence of the defective EAS tag;

means within the combined system for tallying a number of defective EAS tags by type of item identified.

23. (Previously Presented) A system according to Claim 22 further comprising memory within the combined system for storing the number of defective EAS tags by type of item identified;

a point-of-service terminal coupled to the combined system having access to information stored in the memory.

24. (Previously Presented) A system according to Claim 22 wherein the means for indicating presence comprises notifying operator.

25. (Withdrawn) A method of monitoring electronic tag operation comprising the steps of:

passing an item through a read volume;
determining whether the item includes an RFID tag by attempting to read an RFID tag;
if an RFID tag has been read, (a) attempting to write to the RFID tag and (b) validating whether the RFID tag has been written successfully by reading the RFID tag after attempting to write it;
if the RFID tag was not written successfully, repeating steps (a) and (b) until the RFID tag is written successfully; and
assembling data of RFID system operation pertaining to reading and writing the RFID tag.

26. (Withdrawn) A method according to Claim 25 including: identifying the item by obtaining identification data; and

correlating the RFID system operation data by appending the assembled RFID system operation data to the identification data and transmitting the data as a combined data string.

27. (Withdrawn) A method according to Claim 26 wherein said identifying the item comprises reading a label on the item.

28. (Withdrawn) A method according to Claim 26 wherein the step of correlating comprises sending the identification data to a host and separately sending the RFID system operation data to the host.

29. (Withdrawn) A method according to Claim 26 wherein the step of correlating further comprises matching the RFID system operation data to the identification data if the RFID system operation data is received by the host within a predetermined time period of receiving the identification data.

30. (Withdrawn) A method according to Claim 26 wherein the step of assembling data comprises assembling data indicative of RFID tag quality.

31. (Withdrawn) A method according to Claim 26 wherein the step of assembling data includes measuring a time it takes to read the RFID tag.

32. (Withdrawn) A method according to Claim 26 wherein the step of assembling data comprises recording a number of attempts made to write the RFID tag.

33. (Withdrawn) A method according to Claim 26 wherein the step of assembling data comprises recording a number of attempts made to read the RFID tag.

34. (Withdrawn) A method according to Claim 26 wherein the step assembling data comprises recording an event of unsuccessful writing to the RFID tag.

35. (Withdrawn) A method according to Claim 26 wherein the step of assembling data comprises recording an event of unsuccessful reading of the RFID tag.

36. (Withdrawn) A method according to Claim 26 wherein the step of assembling data comprises identifying a defective RFID tag based on failure to successfully write to the tag.

37. (Withdrawn) A method according to Claim 36 further comprising counting a number of RFID tags identified as defective by type of item identified.

38. (Withdrawn) A method according to Claim 26 wherein the step of assembling data comprises identifying a defective RFID tag based on failure to successfully read the tag.

39. (Withdrawn) A method according to Claim 38 further comprising counting a number of RFID tags identified as defective by type of item identified.

40. (Withdrawn) A method according to Claim 26 and further including assessing RFID tag quality.

41. (Withdrawn) A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a read range of the tag.

42. (Withdrawn) A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a write range of the tag.

43. (Withdrawn) A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a return signal quality of the tag.

44. (Withdrawn) A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a return signal frequency of the tag.

45. (Withdrawn) A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a return signal strength of the tag.

46. (Withdrawn) A method of monitoring electronic tag operation comprising the steps of:

passing an item through a read volume;
identifying the item by reading a label on the item and obtaining identification data;
determining whether the item includes an RFID tag by attempting to read an RFID tag;
if an RFID tag has been read, first storing the read data as an RFID data string; and then
(a) attempting to write to the RFID tag and (b) validating whether the RFID tag has been written successfully by reading the RFID tag after attempting to write it;
if the RFID tag was not written successfully, repeating steps (a) and (b) until the RFID tag is written successfully;

assembling data of RFID system operation pertaining to reading and writing the RFID tag;
transmitting the RFID system operation data to a host; and
transmitting the RFID data string to the host.

47. (Withdrawn) A method according to claim 46 wherein said transmitting steps comprise:

appending the RFID system operation data to the RFID data string to form a combined data string; and
transmitting the combined data string to a host.

48. (Withdrawn) A method according to claim 46 wherein said transmitting steps are carried out separately.

49. (Previously Presented) A method of monitoring electronic tag operation in a checkout system having a data reader, the method comprising the steps of:

passing an item through a read volume;
identifying the item by reading a label on the item and obtaining identification data;
determining a location of the item relative to the data reader when the label is read;
sensing an electronic tag on the item; and
correlating the location of the item to the electronic tag sensing operation for use in analyzing system operation.

50. (Previously Presented) A method of monitoring electronic tag operation according to claim 49 and wherein said determining a location of the item when the label is read includes determining a scan line of the data reader that was used to read the label.

51. (Previously Presented) A method of monitoring electronic tag operation according to claim 49 and wherein said determining a location of the item when the label is read includes inferring an orientation of the item.

52. (Previously Presented) A method of operation of an electronic checkout system having a point of sale (POS) terminal coupled to a data reader and an EAS system, the method comprising:

detecting a manual activation of the EAS system to deactivate an EAS tag; and
storing an indication of the detected manual activation of the EAS system.

53. (Previously Presented) A method according to claim 52 wherein said detecting step occurs in the EAS system and further comprising transmitting an indication of the detected manual activation of the EAS system to the POS terminal or host system.

54. (Previously Presented) A method according to claim 53 and further comprising storing an indication of the detected manual activation of the EAS system in the POS terminal or the host system in response to receiving the transmitted indication.

55. (Previously Presented) A method according to claim 52 and further comprising:
identifying an operator logged into the POS system at a time the manual activation of the EAS system is detected; and
storing an identifier of the identified operator in association with the stored indication of the manual activation.

56. (Previously Presented) A method according to claim 52 and further comprising:
determining a date and time when the manual activation of the EAS system is detected;
and storing the determined date and time in association with the stored indication of the manual activation.

57. (Previously Presented) A host notification method for use in an electronic checkout system that includes a data reader and an electronic article surveillance (EAS) system, the data reader and the EAS system coupled to an electronic point-of-sale (POS) terminal, the method comprising the following steps:

- detecting a manual deactivation attempt of the EAS system;
- determining whether deactivation attempt was successful;
- if the deactivation attempt was successful, transmitting an indication of the manual deactivation to the POS terminal or host system, the indication of the manual deactivation including a predetermined optical code.

58.-59. (Canceled)

60. (Previously Presented) A host notification method according to claim 57 wherein said optical code encodes a specially reserved universal product code.

61. (Previously Presented) A host notification method according to claim 57 and further comprising, responsive to receiving the indication of the manual deactivation, creating a record of the manual deactivation event.

62. (Previously Presented) A host notification method according to claim 57 and further comprising, in the POS, responsive to receiving the indication of the manual deactivation, transmitting a record of the manual deactivation event to a server or backroom controller.

63. (Previously Presented) A method of monitoring electronic tag operation according to claim 49 wherein the data reader is selected from the group consisting of: laser bar code scanner; RFID reader; electronic tag reader; hybrid data reader that reads multiple label types.

64. (Previously Presented) A method of monitoring electronic tag operation according to claim 49 wherein the data reader comprises at least two windows through which the data reader

reads labels on the item passing through the scan volume, and wherein said step of determining a location of the item when the label is read is based on which window of the data reader read the label.

65. (Previously Presented) A method of monitoring electronic tag operation according to claim 49 wherein the electronic tag is selected from the group consisting of: EAS tags; and RFID tags.

66. (Previously Presented) A method of monitoring electronic tag operation according to claim 49 wherein the label is selected from the group consisting of: optical code labels or tags; barcode labels; RFID tags; and electronic tags.

67. (Currently amended) A host communication method for use in an electronic checkout system that includes a data reader to acquire product identification and an electronic tag system, the data reader and the electronic tag system coupled to an electronic host system, the method comprising the following steps:

- detecting a predetermined special event of the data reader or the electronic tag system;
- selecting a ~~phantom-UPC~~special optical code as a predetermined data code corresponding to the detected special event; and
- transmitting the selected ~~data~~special optical code to the host system as a special ~~optical~~ code that does not identify a product.

68. (Previously presented) A host communication method according to claim 67 wherein the host comprises a point-of-sale (POS) terminal.

69. (Previously presented) A host communication method according to claim 67 wherein the host comprises a host computer.

70. (Previously presented) A host communication method according to claim 67 wherein the data reader comprises an optical scanner and the detected special event is a status of the optical scanner.

71. (Previously presented) A host communication method according to claim 67 wherein the detected special event is a status of the electronic tag system.

72. (Previously presented) A host communication method according to claim 71 wherein the predetermined event comprises an electronic tag deactivation failed event.

73. (Previously presented) A host communication method according to claim 71 wherein the predetermined event comprises a successful deactivation event.

74. (Previously presented) A host communication method according to claim 71 wherein the predetermined EAS event comprises an attempted deactivation event.

75. (Previously presented) A host communication method according to claim 71 wherein the predetermined EAS event comprises a manual deactivation event.

76. (Previously presented) A host communication method according to claim 67 wherein the data reader comprises a plurality of sensors, and the selected data code identifies which of the plurality of sensors acquired the product data.

77. (Previously presented) A host notification method for use in an electronic checkout system that includes a data reader system coupled to an electronic point-of-sale (POS) terminal, the method comprising the following steps:

- providing multiple sensor windows in the data reader system;
- reading data from an article via the data reader system;
- determining which of the multiple sensor windows was used to read the data; and

capturing an indication of which of the multiple sensor windows was used to read the data.

78. (Previously presented) A method according to claim 77 and further comprising determining an indication of a position of the article responsive to the indication of which of the multiple sensor windows was used to read the data.

79. (Previously presented) A method according to claim 77 and further comprising determining an indication of an orientation of the article responsive to the indication of which of the multiple sensor windows was used to read the data.

80. (Currently amended) A method according to claim 77 and further comprising:
 selecting a ~~phantom-UPC~~special optical code as a predetermined data code corresponding to the indication of which of the multiple sensor windows was used to read the label data; and
 transmitting the selected ~~data~~special optical code to the host system as a special code that identifies which of the multiple sensor windows was used to read the label data.

81. (Previously Presented) A method according to claim 80 wherein the data reader system includes at least one optical sensor.

82. (Previously Presented) A method according to claim 80 wherein the data reader system includes at least one RFID sensor.

83. (Previously Presented) A method according to claim 80 wherein the POS terminal serves as the host.